

Methamphetamine: New Knowledge; New Treatments

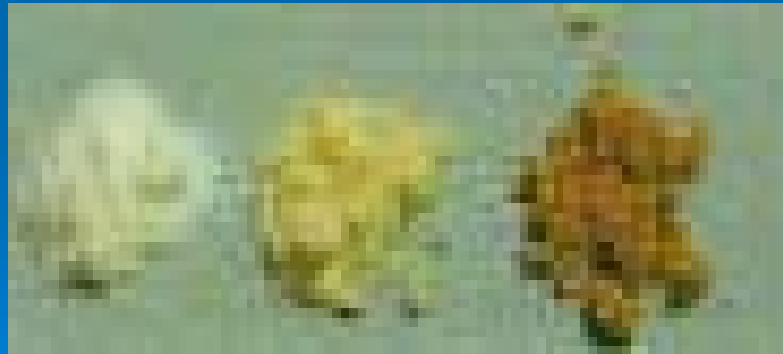
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University of California at Los Angeles

Methamphetamine

- Methamphetamine is a powerful central nervous system stimulant that strongly activates multiple systems in the brain. Methamphetamine is closely related chemically to amphetamine, but the central nervous system effects of methamphetamine are greater.

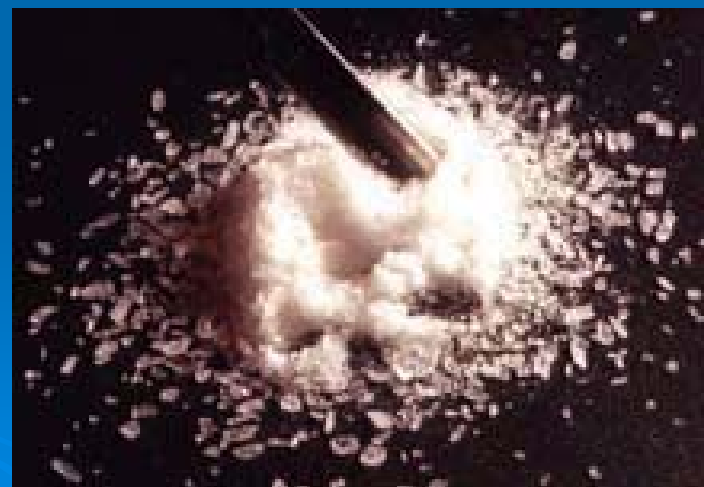
Methamphetamine: Speed

- Methamphetamine powder ranging in color from white, yellow, orange, pink, or brown.
- Color variations are due to differences in chemicals used to produce it and the expertise of the cooker.
- Other names: shabu, crystal, crystal meth, crank, tina, yaba



Methamphetamine: Ice

High purity methamphetamine crystals or coarse powder ranging from translucent to white, sometimes with a green, blue, or pink tinge.



Methamphetamine

A Brief History

- **1887** **Amphetamine developed**
- **1919** **Methamphetamine developed**
- **1932** **Amphetamine &
methamphetamine used as
decongestant**

Methamphetamines

A Brief History

➤ WW II

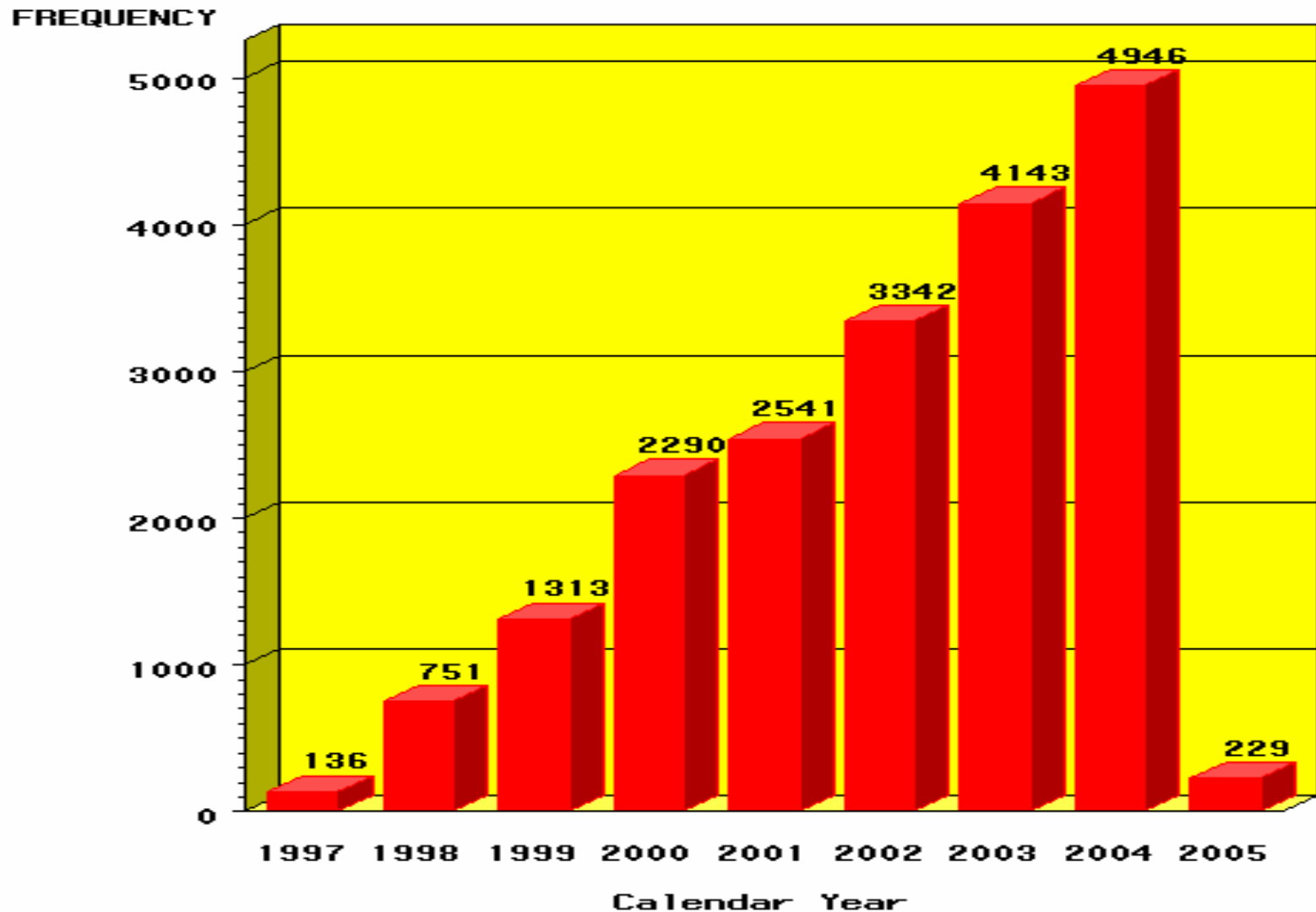
Extensive use by:

- RAF fighter pilots
- German Panzer troops
- Japanese workers
- Led to Kamikaze fever

Scope of the Methamphetamine Problem Worldwide

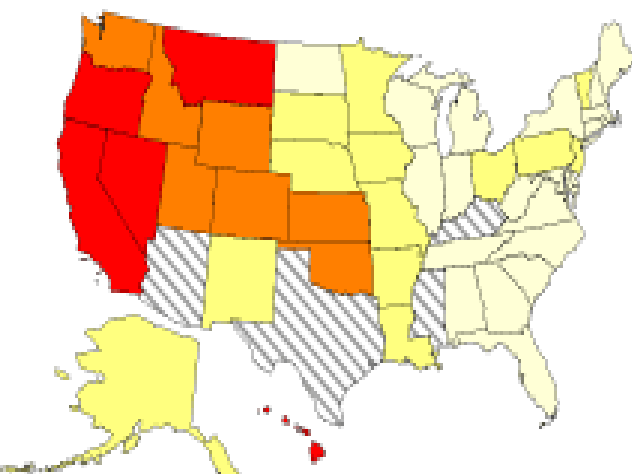
- According to surveys and estimates by WHO and UNDCP, methamphetamine is the most widely used illicit drug in the world except for cannabis.
- World wide it is estimated there are over 42 million regular users of methamphetamine, as compared to approximately 15 million heroin users and 10 million cocaine users

IHS-Wide Outpatient Encounters for Amphetamine Related Visit by Calendar Year

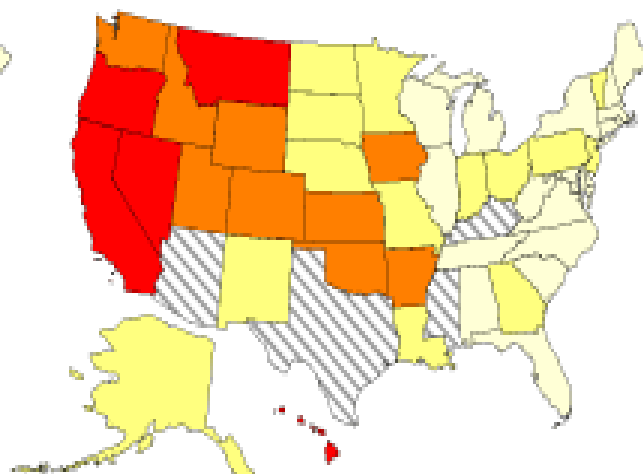


The Eastward Spread of Methamphetamine

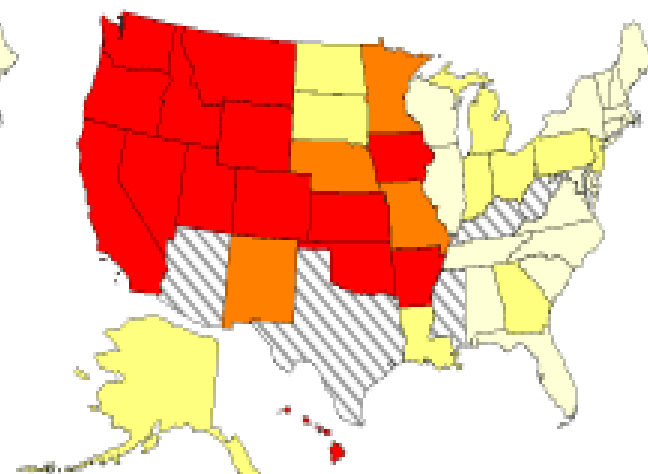
1992



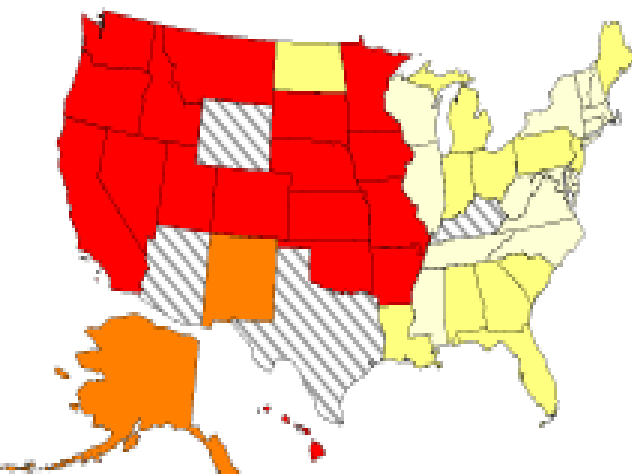
1993



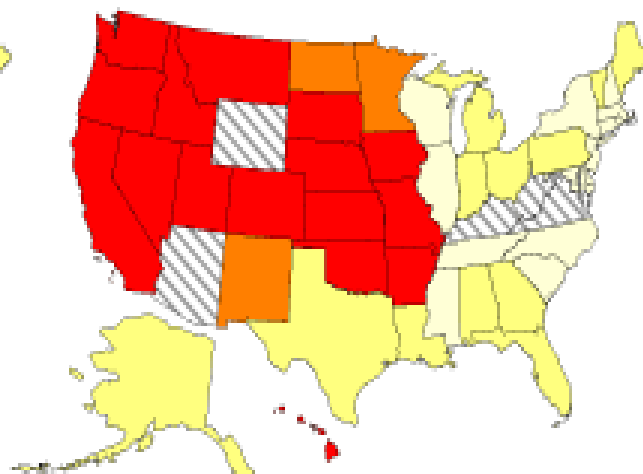
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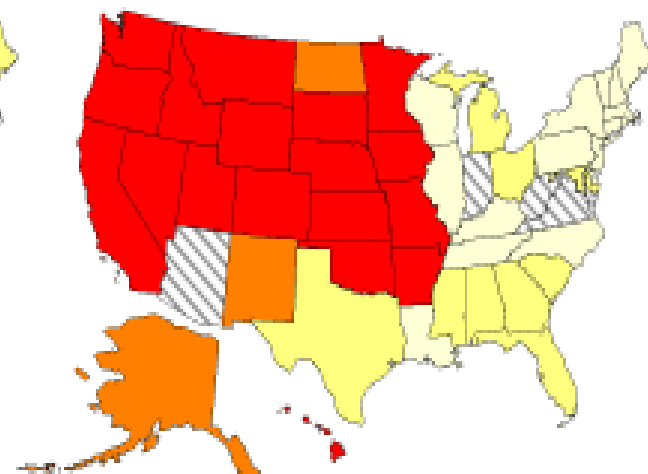
1995



1996



1997



NOTES: See Chapter 2.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS) - 3.01/04.

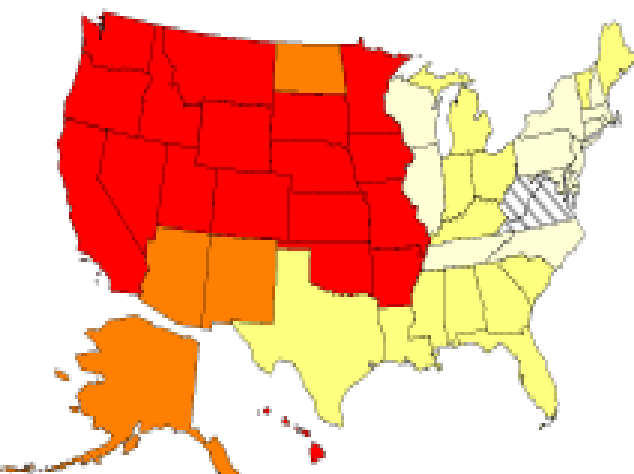
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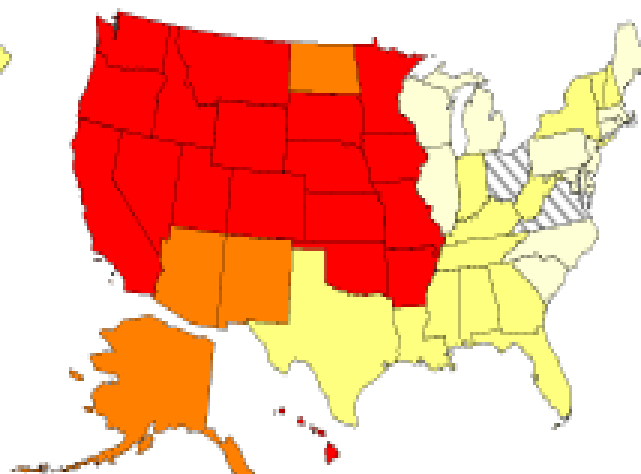
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| < 3 |  | 10 - 23 |  |
| 3 - 9 |  | 24 or more |  |

KEY YEAR: 1992

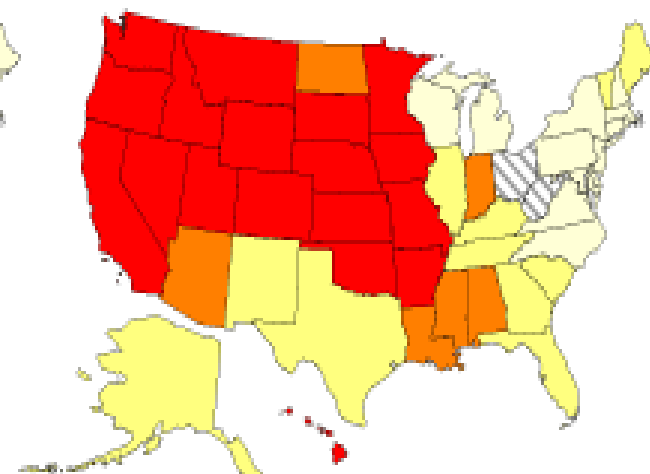
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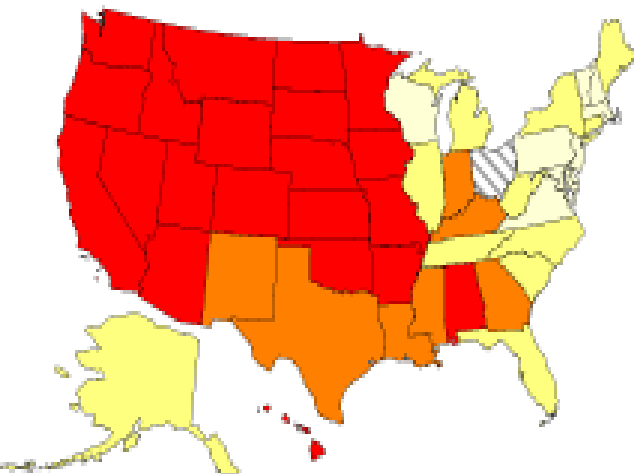
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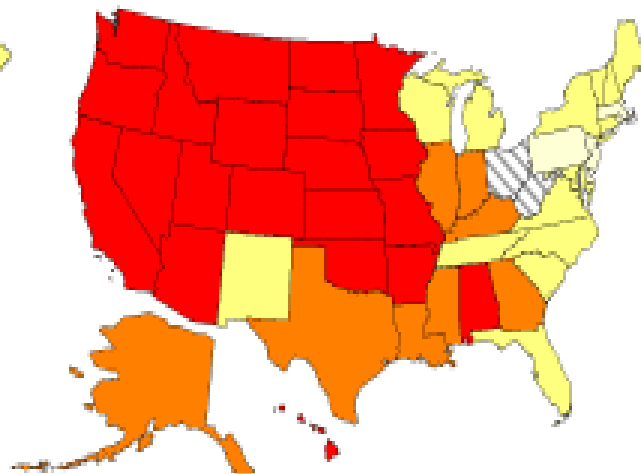
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2002



NOTES: See Chapter 2.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS)– 3.01/04.

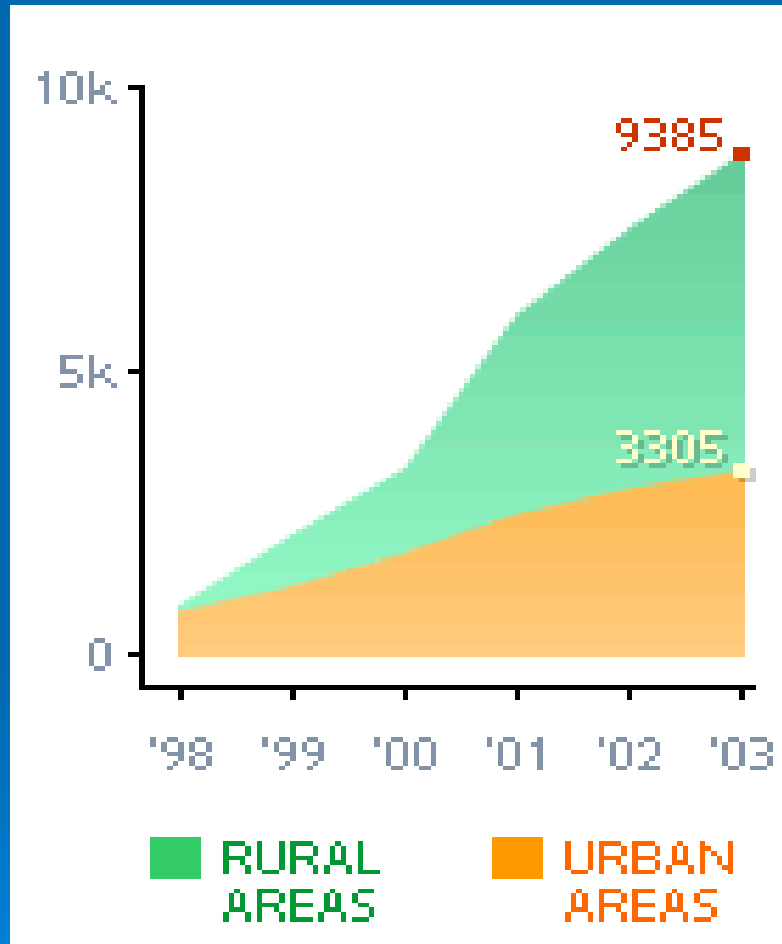
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KEY YEAR: 1992

Methamphetamine: A Growing Menace in Rural America



- In 1998, rural areas nationwide reported 949 methamphetamine labs.
- Last year, 9,385 were reported.
- This year, 4,589 rural labs had been reported as of July 26.

➤ Source: El Paso Intelligence Center (EPIC), U.S. DEA

Toxic Effects of Methamphetamine Manufacturing

- Fires
- Explosions
- Toxic gases
- Toxic wastes

Toxic Effects of Methamphetamine Manufacturing

- Manufacturers
- Law enforcement officers
- Bystanders

Children

- Children who live in and around the area of the meth lab become exposed to the drug and its toxic precursors and byproducts.
- 80-90% of children found in homes where there are meth labs test positive for exposure to meth. Some are as young as 19 months old.

Children

- Children can test positive for methamphetamine by:
 - Having inhaled fumes during the manufacturing process
 - Coming into direct contact with the drug
 - Through second-hand smoke.

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Cardiovascular problems



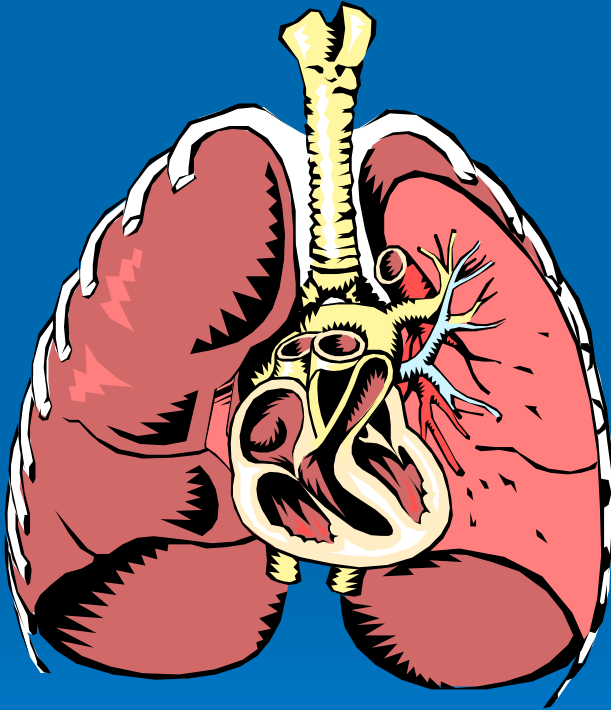
- ↑ heart rate
- Palpitations
- Arrhythmia
- ↑ blood pressure
- Chest Pain
 - Acute Coronary Syndrome
- Valve thickening

Neurological problems



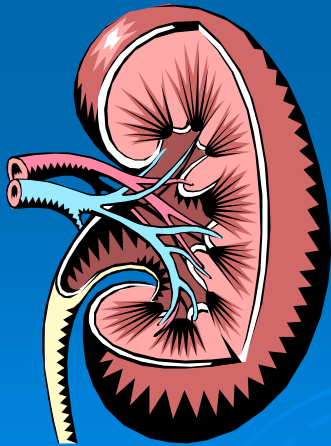
- Seizures
- Stroke
- Cerebral hemorrhage
- Cerebral vasculitis
- Mydriasis

Respiratory problems



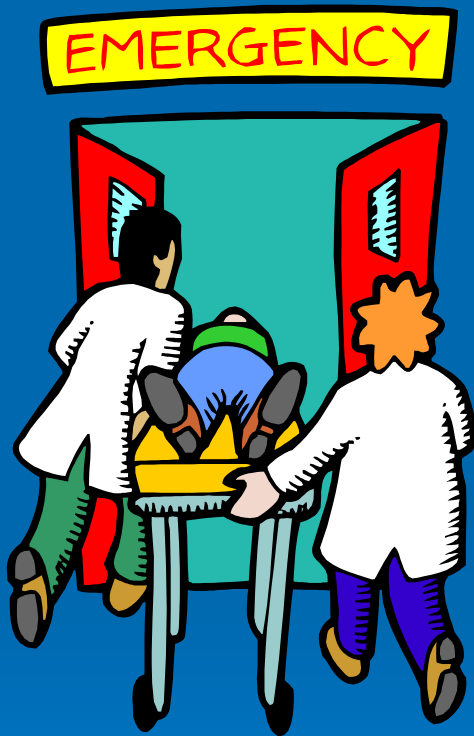
- Dyspnea
- Pulmonary hypertension
- Pleuritic chest pain

Other problems



- Eye ulcers
- Over-heating
- Rhabdomyolysis
- Obstetric complications
- Anorexia / weight loss
- Tooth wear, cavities
- “Speed bumps”

Trauma



- Interpersonal trauma
 - Assault
 - Gunshot
 - Knife
- Motor Vehicles
- Suicide attempts

Methamphetamine

Acute Physical Effects

- Increases

Heart rate

Blood pressure

Pupil size

Respiration

Sensory acuity

Energy

- Decreases

Appetite

Sleep

Reaction time

Methamphetamine

Acute Psychological Effects

➤ Increases

- Confidence
- Alertness
- Mood
- Sex drive
- Energy
- Talkativeness

➤ Decreases

- Boredom
- Loneliness
- Timidity

Methamphetamine

Chronic Physical Effects

- Tremor
- Weakness
- Dry mouth
- Weight loss
- Cough
- Sinus infection
- Sweating
- Burned lips; sore nose
- Oily skin/complexion
- Headaches
- Diarrhea
- Anorexia

Methamphetamine

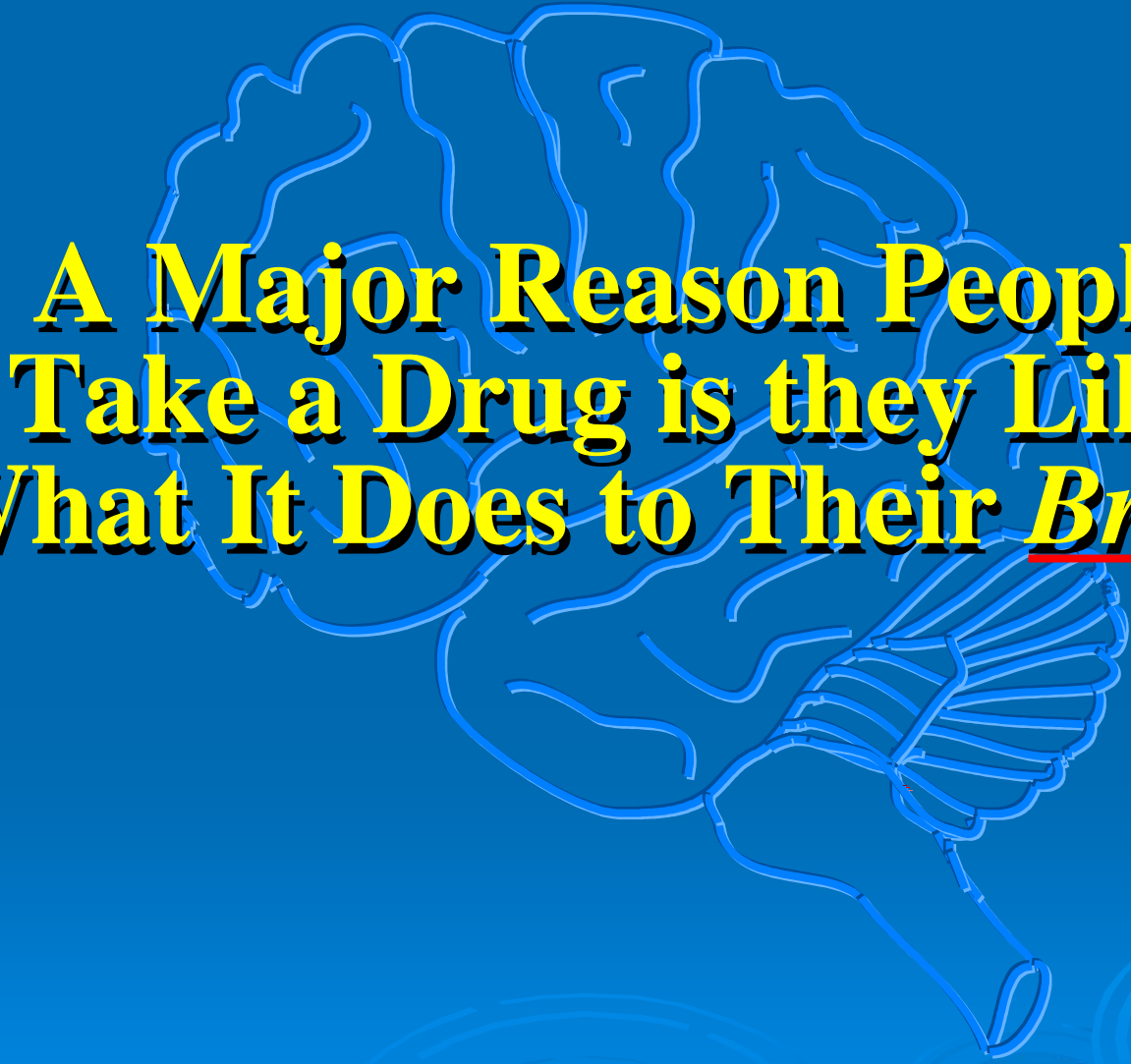
Chronic Psychological Effects

- Confusion
- Concentration
- Hallucinations
- Fatigue
- Memory loss
- Insomnia
- Irritability
- Paranoia
- Panic reactions
- Depression
- Anger
- Psychosis

Methamphetamine

Psychiatric Consequences

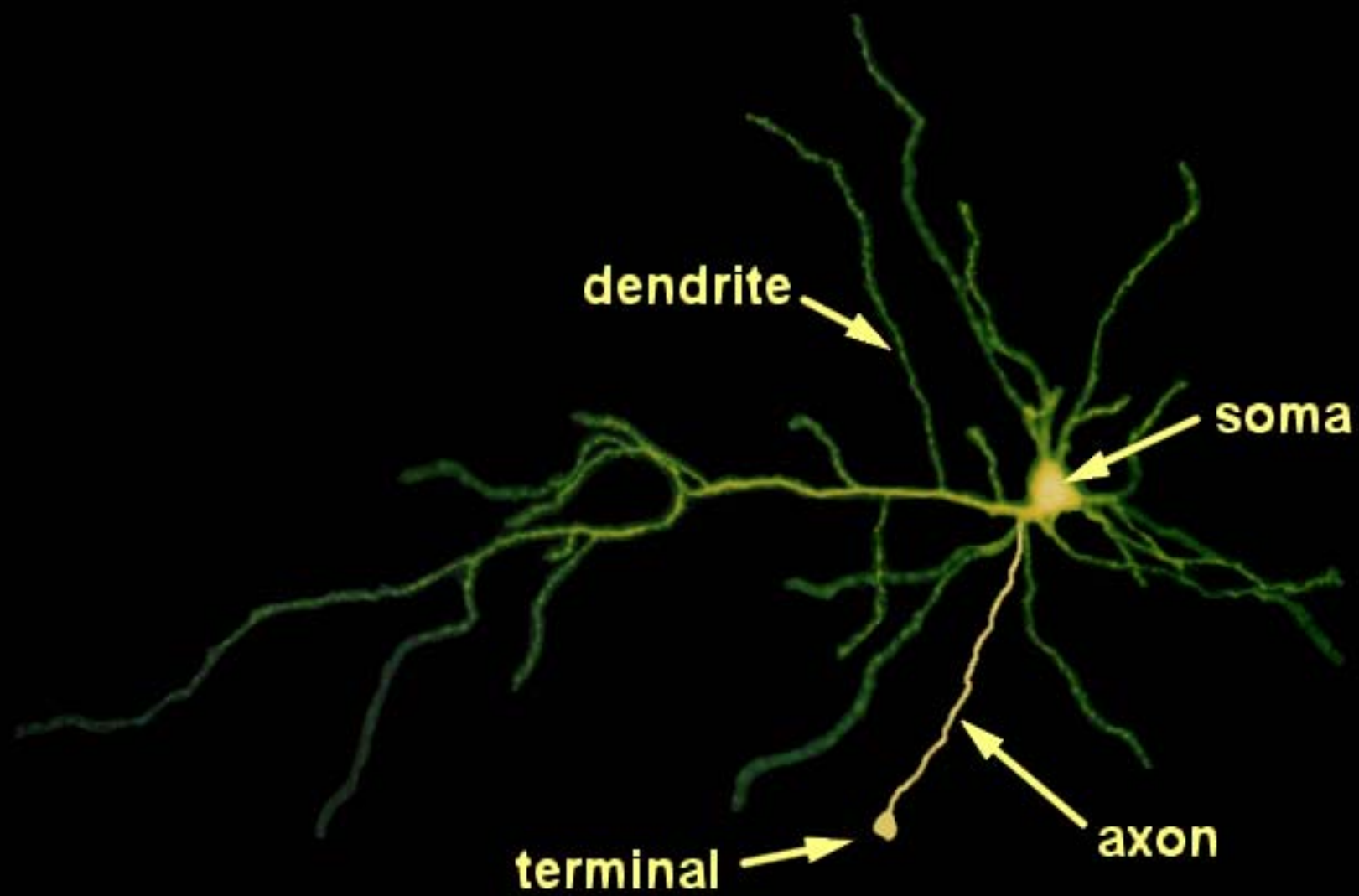
- Paranoid reactions
- Permanent memory loss
- Depressive reactions
- Hallucinations
- Psychotic reactions
- Panic disorders
- Rapid addiction

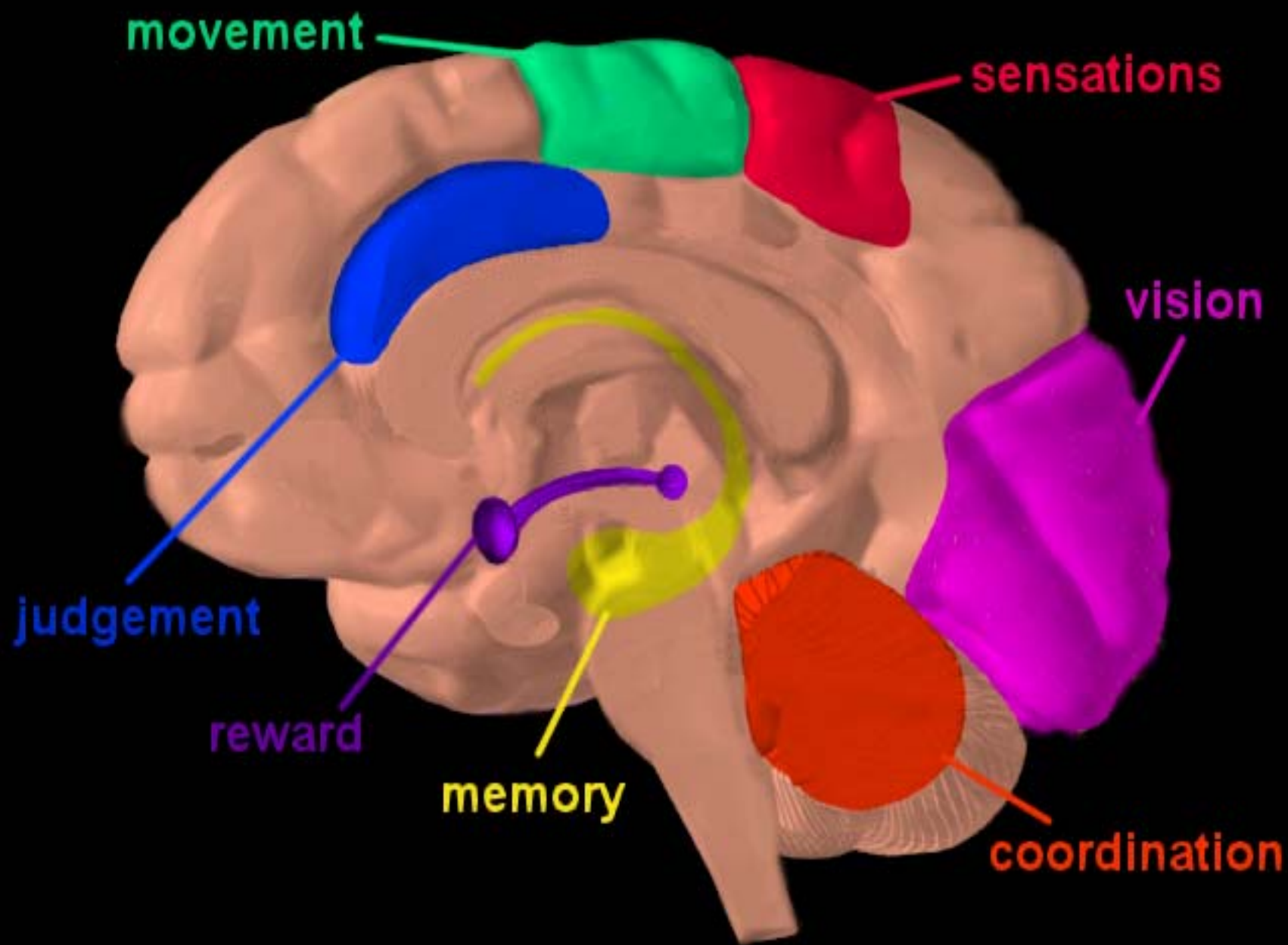


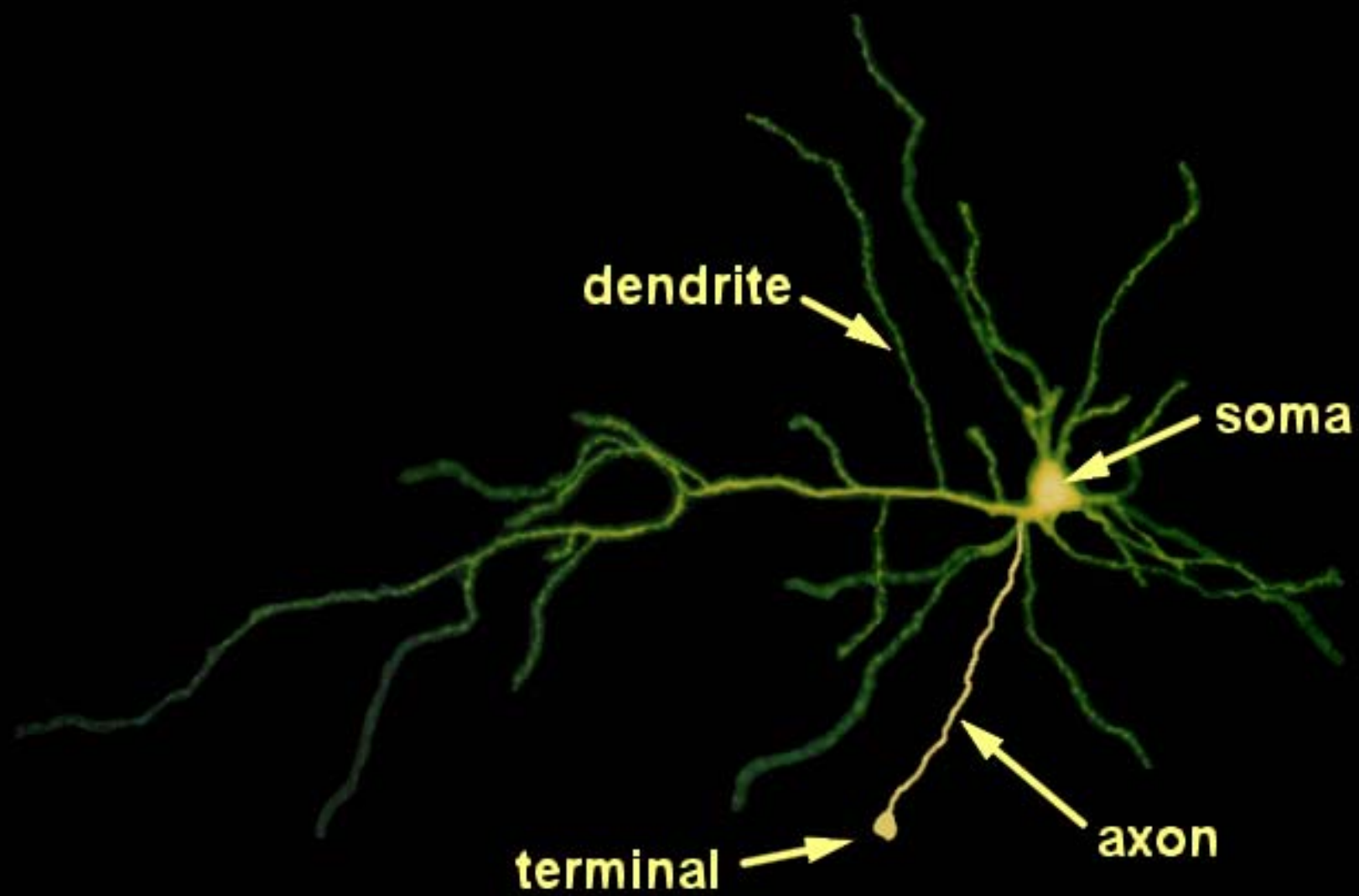
**A Major Reason People
Take a Drug is they Like
What It Does to Their Brains**

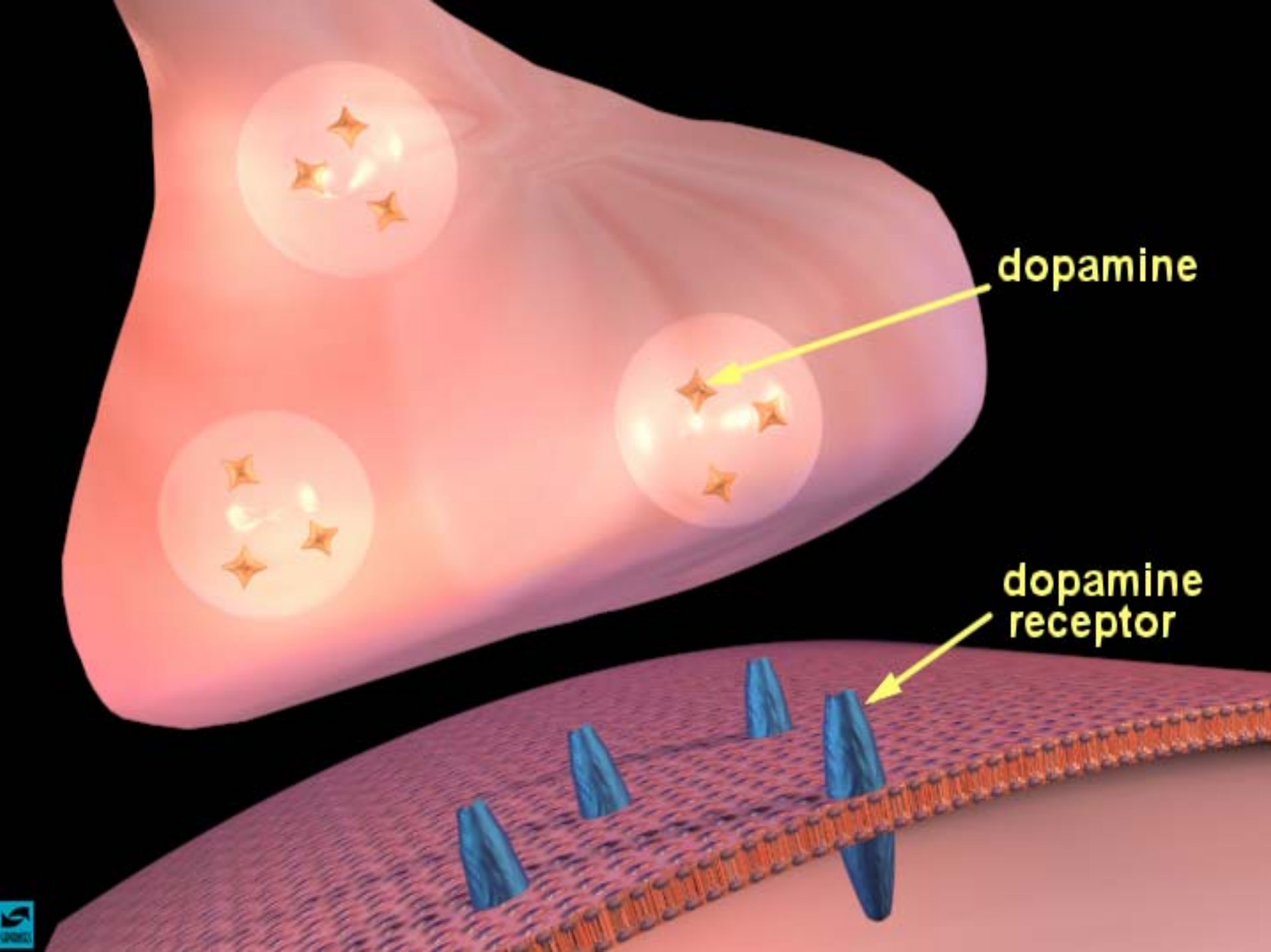
**Methamphetamine abusers have
abnormal brain activity.**

Prolonged Drug Use Changes the Brain In Fundamental and Long-Lasting Ways



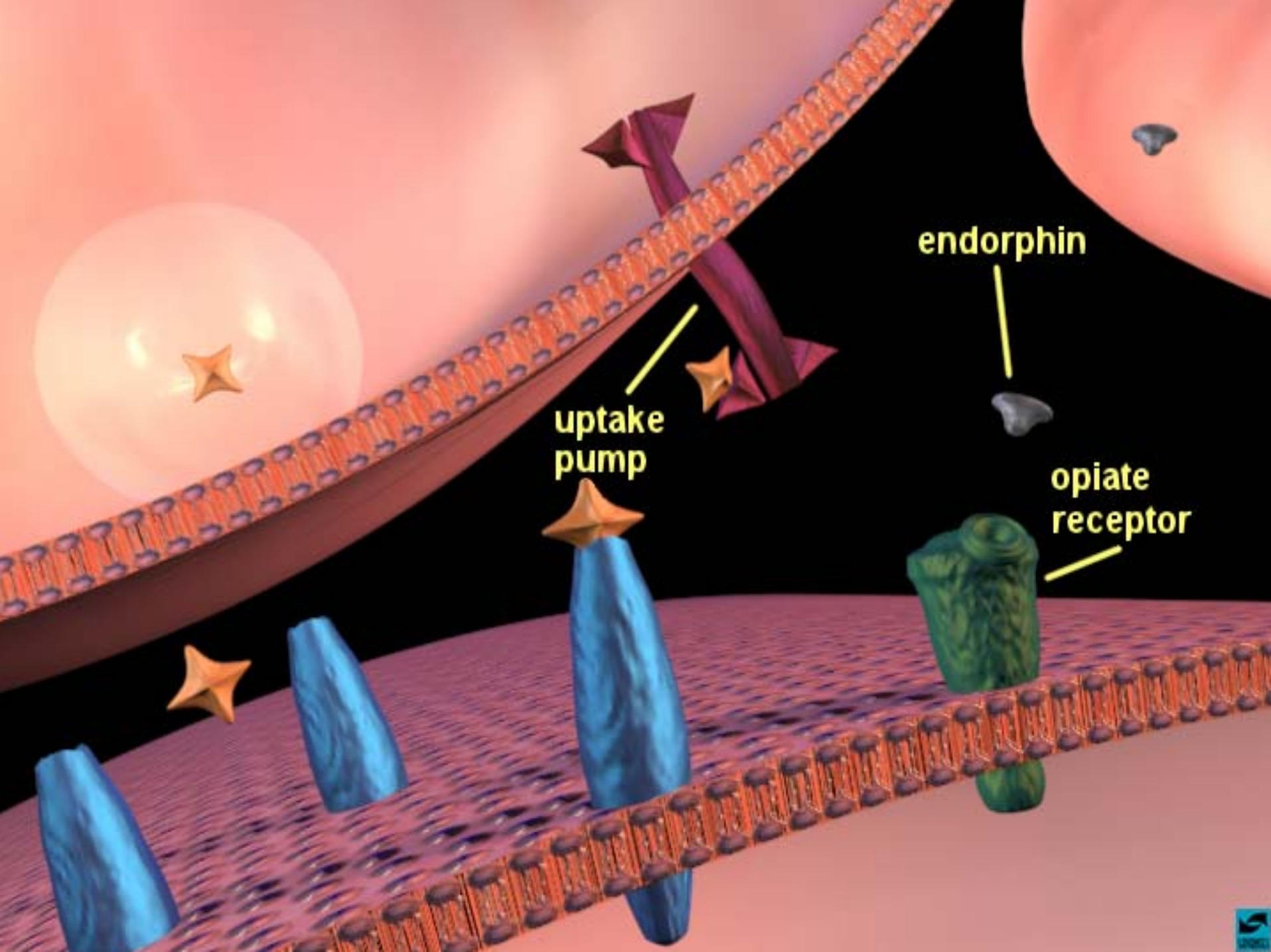


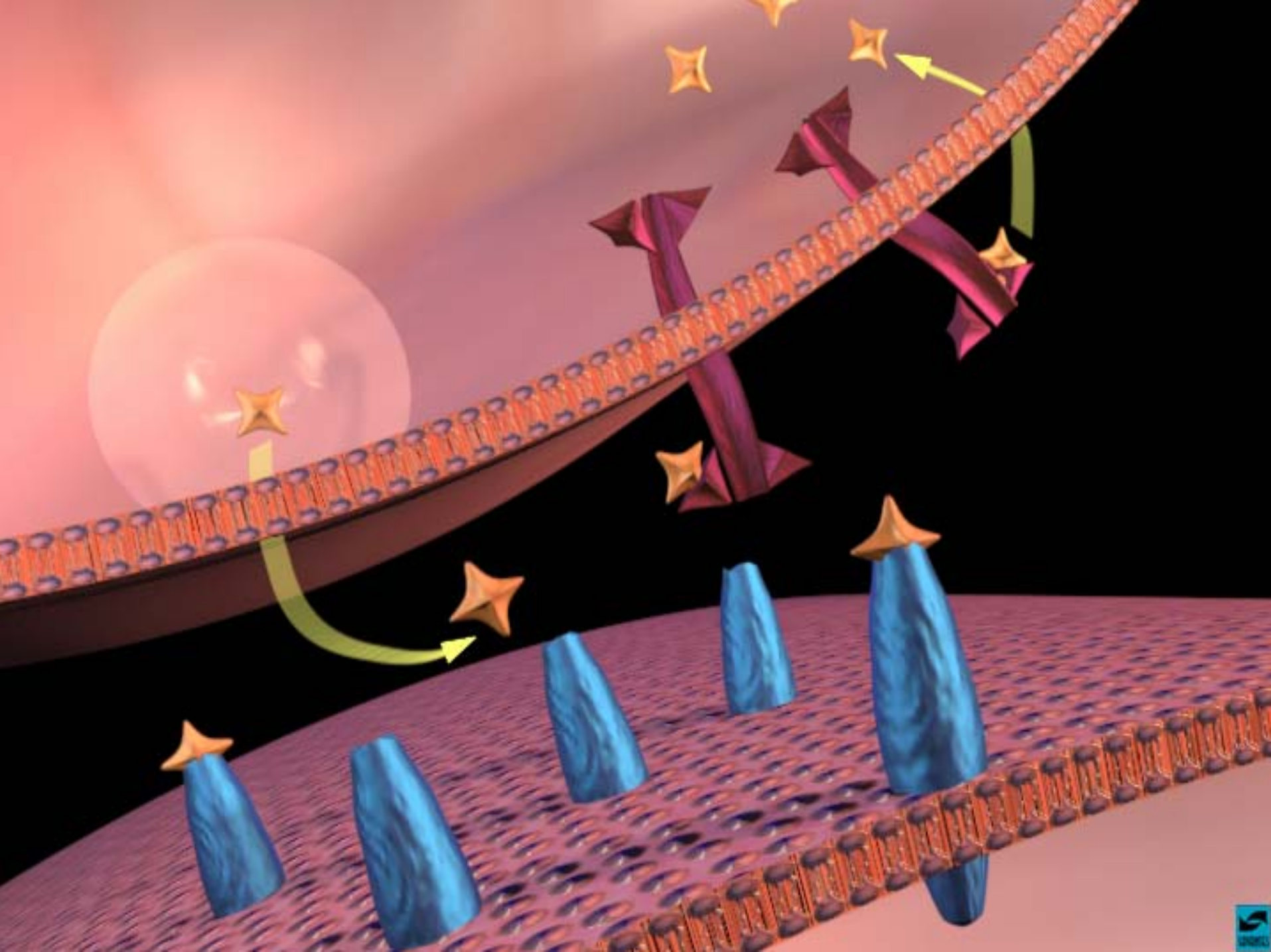


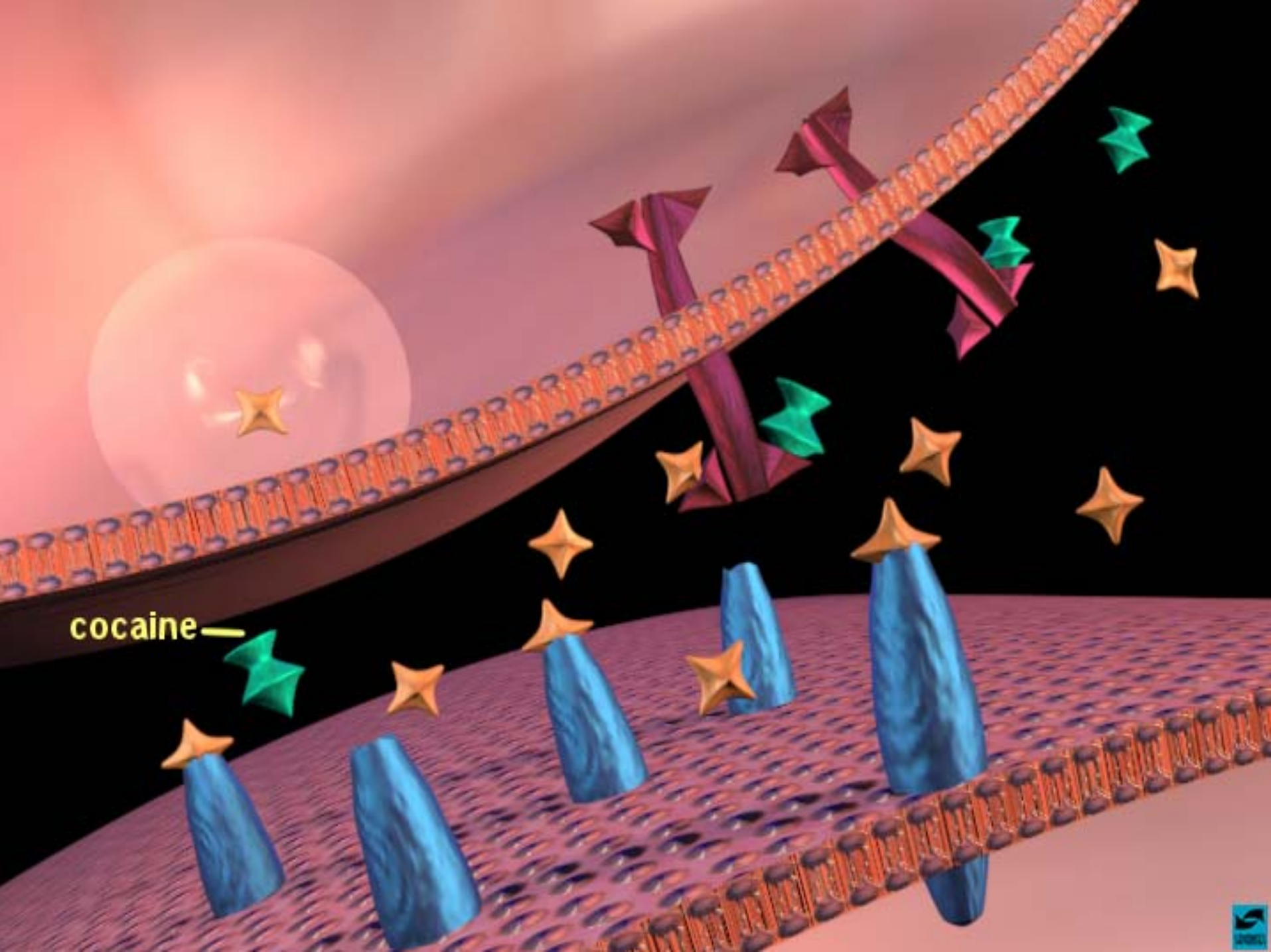


dopamine

dopamine
receptor







cocaine

